



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/583,153

06/16/2006

Hirohisa Tanaka

71465.0013

2559

57362 7590 07/21/2008
AKERMAN SENTERFITT
801 PENNSYLVANIA AVENUE N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

ZIMMER, ANTHONY J

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

07/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,153	Applicant(s) TANAKA ET AL.	
	Examiner ANTHONY J. ZIMMER	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I in the reply filed on 6/9/2008 is acknowledged. The traversal is on the ground(s) that the inventions are so linked as to form a single general inventive concept because both groups contain the same elements. This is not found persuasive because unity among inventions exists only when there is a technical relationship among the claimed inventions involving one or more of the same corresponding special technical features. See MPEP 1850 and PCT Rule 13.2. The common technical feature of both groups of claims is not considered to be a special technical features for reasons presented in the requirement of 5/7/2008.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

The information disclosure statement filed 6/16/2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. Applicant claims that the references were characterized in the IPRP and this characterization should satisfy the concise explanation of relevance requirement; however, though the references were mentioned,

there was no explanation of the relevance of either of the documents in question that would allow the examiner to consider patentability in view of such documents.

Claim Objections

Claim 1 is objected to because of the following informalities: in the second to last line of the claim, the "X" is uppercase. The "x" referred to earlier in the claim is lower case. Appropriate correction is required.

It should also be noted that the use of uppercase "N" in the formulas of claim 1 and 8 is confusing since "N" represents nitrogen in the periodic table.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1,8-10, "perovskite-type" is indefinite as to its metes and bounds due to use of the word "type."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1793

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by WO'095.

In regard to claims 1-2, 4-5, and 7-8, WO'095 teaches a perovskite-type catalyst $\text{BaZr}_{1-x}\text{Rh}_x\text{O}_3$ wherein x is 0.01-0.8. See Examples and claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 6, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'095 in view of Nakatsuji '692.

Art Unit: 1793

In regard to claim 3, WO'095 teaches platinum as the B component in $A_zZr_{1-x}B_xO_3$, but does not teach calcium as the A component. See claim 1.

However, WO'095 teaches barium as the A component, and it would have been obvious to one of ordinary skill in the art to substitute calcium for barium because each of calcium and barium are alkaline earth metals having similar properties due to the similarity in the configuration of the outermost electron shells. Thus, it would have been obvious to one of ordinary skill in the art to substitute one alkaline earth element for another in order to affect the predictable result of forming a perovskite-type catalyst. Furthermore, calcium is known to be used in perovskite structured materials (see page 1, lines 8-11 of WO'095) and is known to be used in the place of barium in perovskite type catalysts. See Nakatsuji column 2, lines 33-46.

In regard to claims 6 and 9, WO'095 teaches using rhodium as the B component and barium as the A component in $A_zZr_{1-x}B_xO_3$ (for instance $BaZr_{1-x}Rh_xO_3$ wherein x is 0.01-0.8), but does not teach titanium. See claim 1 and examples.

However, WO'095 teaches zirconium, and it would have been obvious to one of ordinary skill in the art to substitute titanium for zirconium because each of zirconium and titanium are group IVB metals having similar properties due to the similarity in the configuration of the outermost electron shells. Thus, it would have been obvious to one of ordinary skill in the art to substitute one group IVB element for another in order to affect the predictable result of forming a perovskite-type catalyst. Furthermore, titanium is known to be used in perovskite structured materials (see page 1, lines 8-11 of

Art Unit: 1793

WO'095) and is known to be used in the place of zirconium in perovskite type catalysts.

See Nakatsuji column 2, lines 33-46.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. ZIMMER whose telephone number is (571)270-3591. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ajz

/Steven Bos/

Primary Examiner, Art Unit 1793